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GENERAL

Flaws in U.S.-Russian SSD Agreement Viewed

934P0048A Moscow NEZAVISIMAYA GAZETA in Russian 15 Dec 92 p 2

[Article by Bakhtiyar Tuzmukhamedov: "An Act of Rational Self-Interest on the Part of the United States—This Is What Yevgeniy Ambartsumov Called the Agreement on the Procedure, Shipment, Storage, and Destruction of Weapons"]

[Text]

United States—Russia

America made a present to Russia... No, this time not the steamship Beluga, but several hundreds of millions of dollars in the form of equipment, technology, and services for getting rid of Russian weapons. This assistance is now being called "Greek gifts." The reason for the accusation is the text and procedure for concluding a "framework" agreement relative to the safe and reliable shipments, storage, and destruction [SSD] of weapons, the prevention of weapons proliferation and also, but to a lesser extent, three accompanying agreements concerning implementation. The package of documents was signed during the June Russian-American meeting at a high level, but only at the Seventh Congress did it become a subject of, to put it mildly, faultfinding attention.

In the speeches of some deputies, the framework agreement was called both "an anticonstitutional document" and a "bomb that could blow up Russian legislation."

However, it should be taken into account that the subject of the argument is the agreement on the assistance, in many ways free of charge, being rendered by one of the parties to the other. Such an agreement cannot be equal in its effect. It is another matter that the juridical equality of its participants is assured by special methods, for example, reservations on the possibility of withdrawing. As for the articles that trouble some of the deputies, the application of which should continue even after the cessation of the operation of the agreement, then, apparently, it is necessary to reconcile ourselves to this also, inasmuch as the question concerns equipment, technology, and expertise that contain elements of industrial and commercial secrets.

True, doubt is raised concerning the need to retain for American state employees the same privileges and immunities that are granted the administrative-technical personnel of embassies after the cessation of the agreement.

It would be more reasonable, in my opinion, to define concretely the extent of privileges and immunities envisaged by the Vienna convention that are applicable to specific aspects of activity of American officials—as it is done in the protocol on inspections in connection with the START Treaty. Incidentally, in contrast to the framework agreement, equipment brought in for inspections according to the START Treaty is also not free from examination upon arrival even in the period that it is on the territory of the state being inspected. Moreover, it would be appropriate to stipulate not only the possibility of examining equipment, but also to present its list ahead of time and immediately before it is brought in.

Other complaints can also be made concerning agreement terminology. At least, take its name, which speaks about "weapons." What kind? The opportunities for an expanded interpretation is practically unlimited, especially in light of paragraph "c" of Article 1, where weapons are talked about "that are subject to the risk of proliferation." From rifle to nuclear weapons? Explanations of the type "and so it is clear that the question concerns weapons of mass destruction [WMD]" are not pertinent here. The guarantee of fulfilling every contract lies not only in the honesty of the parties, but also in the accuracy of the wording.

To tell the truth, the impression is created at times that the Russian text of the agreement is not a completely verified translation from the English.

Now, several remarks about whether this agreement is "anticonstitutional." It seems to me that the attempt to present the agreement as such is hardly warranted on the whole. The flaws that were committed are insufficient to raise the matter to a high constitutional level. But it would be worthwhile to dwell on certain substantial deviations.

Attention was already given at the Seventh Congress to the fact that in accordance with the constitution international agreements that are signed by the president go into effect after ratification by the Supreme Soviet. By the way, it is quite an unreasonable situation, but this is another discussion. However, since it is in effect, it should be implemented. Moreover, it is not only for the president to implement who is obligated to send such agreements to parliament, but also for parliament to implement its constitutional powers in a proper way.

Meanwhile, there already is experience in negotiating creativity within the framework of the CIS, as a majority of the agreements being signed by the president, including those that encroach on the sphere of actions of Russian internal legislation, are not turned over to the legislators, and they do not see a special problem in this.

Further, the framework agreement envisages a rejection by the Russian side of legal complaints in connection with the death or injury to the health of Russian citizens as a result of activity in connection with the agreement. In its recent decision on the "CPSU case," the Constitutional Court affirmed the general principle of law according to which "the law and any normative act that stipulates a limitation on the rights of citizens goes into effect only after it is published in an official procedure." I personally do not know about such a publication. Although ministers Kozyrev and Mikhaylov in an article in KRASNAYA ZVEZDA (10 December of this year) refer to an annotation of the agreement in the DIPLOMATICHESKIY VESTNIK and to its text in the collection of materials of

the visit published by the International Relations publishers, neither one nor the other in accordance with the laws that are currently in effect (still Union) and being prepared (now Russian) concerning international treaties can be considered official publications.

What is to be done? One of the reasonable variants was proposed by Deputy Yevgeniy Ambartsumov: Correct the agreement by means of an exchange of notes between the Russian Ministry of Foreign Affairs and the U.S. State Department. I think that it would be possible to use the opportunity of adopting amendments that is provided for in the agreement or for proxies at disarmament talks to take the path of adopting coordinated statements containing interpretations of individual key positions and terms that are acceptable to both parties.

Inasmuch as the constitutional requirement concerning the ratification cannot be avoided, we should, in agreement with the Americans, stop the action of the agreement and submit it to the Supreme Soviet, and even there, possibly, supply the decree on ratification with indications of how the legislator understands one or another obligation on the condition that these indications will be of a clarifying, but not of a modifying nature.

If the executive authorities can come to an agreement with the legislative authorities, then it will be easier to do this with the Americans. The accurate description of the agreement given by Ambartsumov as "an act of rational self-interest on the part of the United States" delighted an acquaintance from Washington who is a government lawyer who followed the debate from the spectators' gallery. The debates themselves, judging by his reaction, make one think about the limits of such self-interest. The attempt to achieve the maximum possible advantages, and using the weakening of the partner, is simply dangerous in this specific situation. The course and the intonation of the discussion, and the background against which it developed, clearly show that the framework agreement is becoming an unnecessary reason for exacerbating the crisis of authority and of society.

Khariton: Espionage Not Crucial in Soviet Nuclear Arms Development

934P0049A Moscow IZVESTIYA in Russian 9 Dec 92 p 3

[Article by Academician Yuliy Khariton, honorary scientific director of the Russian Federal Nuclear Center, under the general heading: "USSR Nuclear Arms: From America or Developed Independently?"]

[Text] Former Soviet intelligence officers, whose dangerous work we highly value and respect, maintained on a number of occasions that our rezidents had obtained documentation on the first prototypes of the atomic and hydrogen bomb that allegedly directly enabled us to make the bombs. With respect to the design of the atomic bomb these intelligence officers are formally correct. With regard to the hydrogen bomb, they are completely wrong.

First, some more details on the atomic bomb.

Long before receiving any information whatsoever from our intelligence, Chemical Physics Institute [IKhF] researchers Ya. Zeldovich and the author of this article performed a number of calculations in 1939 and 1940 on a ramified [razvetvelenniy] chain reaction of uranium fission in a reactor as a regulated controlled system. As early as that time, the authors proposed using heavy water and carbon as neutron moderators. During the same prewar years G. Flerov and L. Rusinov obtained important experimental results in determining the key parameter of the chain reaction—the number of secondary neutrons resulting from neutron-induced fission of uranium nuclei. Among the fundamental achievements of that period also was the discovery by G. Flerov and K. Petrzhak of spontaneous, not neutron-induced, uranium fission.

The results enumerated above, as well as other important work by Soviet physicists, were immediately published in scientific journals and laid the foundation for solving atomic tasks in the USSR.

In addition, Ya. Zeldovich and I determined the conditions under which a nuclear explosion is initiated, and evaluated its enormous destructive power. We delivered a report on this topic in the summer of 1939 at a seminar at the Leningrad Physical and Technical Institute. Later, in 1941, with the participation of I. Gurevich, we determined more precise specifications of uranium-235 critical mass and obtained its highly probable—but, of course, imprecise due to only approximate knowledge of nuclear constants—value. This part of our work was not published at the time, however, because by then security restrictions had been introduced.

In 1940 Academician N. Semenov, IKhF director, sent a letter to his people's commissariat pointing out the need to develop a range of activities aimed at creating nuclear weapons. There was no reply. G. Flerov, a researcher with the Leningrad Physical and Technical Institute Nuclear Physics Laboratory headed by I. Kurchatov, in the army at the time, sent a similar letter to Stalin in 1942. True, the situation at the front was exceedingly difficult, and one could hardly expect a positive reaction to a proposal which to many at the time belonged in the realm of fantasy.

In the United States in 1939, physicist L. Szilard realized that only a direct appeal to the supreme power on the part of the highest scientific authority could help get work on nuclear weapons started. Szilard persuaded Einstein, who at the time was working in the United States, to write a letter to President Roosevelt. The letter had the desired effect. Soon a number of scientific and production centers working on this problem were created.

In the USSR, the beginning of the war and the evacuation of the IKhF, the Physical and Technical Institute, and the Radium Institute from Leningrad to Kazan, as well as the need to get involved in the defense industry-related work, interrupted nuclear weapons research.

It was a rather unexpected circumstance that helped get practical work on nuclear weapons off the ground. A young

German theoretical physicist, Klaus Fuchs, was a communist. At the beginning of the 1930's he left Germany, as the rise of fascism made it dangerous for him to remain there. In 1934 he settled in England and several years later became a British citizen. In 1941 Fuchs was invited by another German emigre, physicist R. Pierls, to join his group. This group was working on problems related to the development of nuclear weapons.

Fuchs soon learned that the work was being kept secret from the USSR—a war ally. He considered this unconscionable and reported all his information to representatives of the People's Commissariat for Defense in the Soviet Embassy in London. Later on, Soviet intelligence residents established contacts with Fuchs and a systematic transfer of information to Moscow.

In the USSR the government established a scientific-technical center for the development of nuclear weapons in 1943. On the recommendation of Academician A. Ioffe, I. Kurchatov was appointed the center's director. He truly was the best candidate—an excellent physicist with exceptional organizational talent. Igor Vasilyevich was an incredibly charming man, which is very useful when one has to deal with great numbers of absolutely different people.

In carrying out the government's decision, Kurchatov started to put together an institute on the outskirts of Moscow that was named Laboratory No. 2 of the Academy of Science, although, naturally, this organization had nothing in common with the Academy. Kurchatov was familiar with the work by Zeldovich and myself and offered me responsibility for the development of a nuclear charge or, as it is often called, the atomic bomb. I agreed.

In 1946 the government made a decision to organize a special institute for this type of work, currently called VNIIEF—the All-Russian Scientific Research Institute for Experimental Physics (Russian Federal Nuclear Center).

In 1946 the first nuclear reactor (scientific—not industrial—of course) in the USSR was put on line in Kurchatov's Laboratory No. 2. Then plutonium separation and production plants were built. Our scientists contributed many completely new ideas to the development of extremely precise electronic and optical instruments for hydrodynamics measurement, measuring equipment for nuclear physics research, and registration of various types of radiation produced in the process of a nuclear explosion. In effect during those years a new branch of science and technology—the nuclear branch—was created within an extremely condensed time frame. Building the first nuclear bomb took tremendous effort on the part of many scientists, engineers, technicians, and workers.

From 1943 to 1946 Fuchs worked together with R. Pierls' group in the United States; then he returned to England. The information passed over by Fuchs and other agents encompassed a wide range of science and technology disciplines needed to build nuclear weapons. For instance, the nuclear reactor where plutonium is formed under the impact of a powerful neutron stream; various calculations; and finally a detailed design of the first American nuclear charge. Of course, we could not accept this information unquestioningly. It could contain elements of disinformation—after all, we had no notion how this information was obtained—and therefore needed to be carefully verified, with additional calculations made.

We did indeed know of the feasibility of plutonium extraction from articles by E. MacMillan, F. Abelson, and L. Turner published by them in the still-open press in the June and July 1940 issues of the PHYSICS REVIEW.

We conducted large-scale experimental research on measuring parameters in a construction under the pressure exerted by the products of the explosion of a substance with a 1-2 tonne mass, as well as various nuclear physics research.

When we received information that the bomb we had been informed about had been successfully tested in the United States, it became clear that it was best for us also to test this particular design. We needed the fastest and most reliable method to show that we also had nuclear weapons. The more effective designs we envisioned could wait. They were developed in later years.

As is known, the first atomic bomb test in the USSR was successfully conducted on 29 August 1949.

The entire Soviet people should be deeply grateful to Klaus Fuchs for the extensive information he passed to Soviet physicists. In the USSR this contribution—like everything else associated with the NKVD [People's Commissariat for Internal Affairs]—was kept secret. After Fuchs' release in 1959 I asked D. Ustinov to enter a petition to grant Fuchs an award for the assistance he had rendered the USSR. Dmitriy Fedorovich held high positions in the state and party apparatus and attentively followed the work on the development of nuclear weapons. He agreed that this should be done and said that he would try. He did not get a positive result, though.

With respect to the first hydrogen bomb, this is what happened.

In the United States the idea of developing a hydrogen bomb (or superbomb, thousands of times more powerful than the atomic one) was advanced by a Hungarian emigre, the very talented theoretical physicist Edward Teller, in 1942. He and his group of assistants were actively working on this particular project, and by 1946 he believed that basically the possibility of creating a hydrogen bomb was a proven matter. Information regarding this development was passed by Fuchs to our intelligence.

While the expediency of developing hydrogen charges was being discussed, mathematician Ulam (also an emigre) and his assistant Everett carefully checked Teller's calculations in 1950 and discovered that the proposed concept was faulty. American specialists realized that Teller's hydrogen bomb design was unworkable and the direction chosen for its development would lead to a dead end. Accordingly, all

the information obtained by our intelligence on the American work in the area of hydrogen bomb development turned out useless for us as well.

In early 1950 Fuchs, who had returned from the United States to England in 1946 and continued his contacts with Soviet intelligence, was arrested. American and British counterintelligence had managed to uncover his contacts with Soviet intelligence. Fuchs had to admit that he had given the USSR the materials related to the development of nuclear weapons.

The trial took place in London on 1 March 1950. Fuchs was sentenced to 14 years in prison. Nine years later he was released and immediately moved to the GDR.

Thus, Fuchs was isolated from the outside world at the beginning of 1950, when the calculation errors in the American hydrogen bomb design had not yet been uncovered. Besides, the United States did not share this information with Great Britain. Therefore there was no one to inform Soviet intelligence that the information they had obtained on the hydrogen bomb was absolutely useless to us. Nevertheless, unfortunately, members of the intelligence profession continue to stubbornly maintain that Soviet scientists contributed nothing of their own to the development of our first hydrogen bomb.

Lately there were suggestions in the American press that perhaps Soviet physicists obtained useful information on the American hydrogen bomb design by analyzing the products of explosions carried by the wind. It is true, aircraft-mounted instrumentation for collecting explosion products was used in both the United States and the USSR, but at the time this work on our side was not yet organized at a sufficiently advanced level, and we did not obtain any useful results.

From all that has been related above it is clear that the development of the hydrogen bomb was accomplished by Soviet physicists completely independently. In this process, theoretical physicists constantly worked together with the mathematical sector of our institute and with the specially created department of the Institute of Mathematics of the USSR Academy of Sciences.

The first real hydrogen charge in the world that used thermonuclear reaction, ready to be used in the form of a bomb and with a power that exceeded by a factor of approximately 20 that of the bomb dropped by the Americans on Hiroshima, was tested in the Soviet Union in 1953. The creator of this charge was A. Sakharov. This charge already used the promising thermonuclear fuel that the Americans used for the first time in 1954 tests. This type of thermonuclear fuel was proposed as early as 1948 by V. Ginzburg, member of Academician I. Tamm's group, which also included A. Sakharov. At the time this group was attached to the Institute of Physics of the USSR Academy of Sciences.

In 1955 the USSR tested a hydrogen charge using principally new ideas in physics, which later were also used in the development of other hydrogen charges. The power of the charge tested in 1955 was more than 1 million tonnes of TNT and was identical to the calculated value. As A. Sakharov notes in his book "Memories," the new promising hydrogen charge design was a collective effort. Nevertheless, one can identify the scientists whose contribution to the development of this new design was a decisive factor. They are A. Sakharov, Ya. Zeldovich, and Yu. Trutnev.

The erroneous results of the first years of development work on the hydrogen bomb in the United States is also mentioned in the book titled "The Advisers" [Sovetniki] by H. York, a former director of the Livermore Laboratory, established in 1952. From October 1950 to January 1951 Teller was desolate. Then he, together with Ulam, gradually found an unexpected solution. I can testify that our theoreticians also went through a lot of aggravation until they found the correct method. I will also add that we managed to do it without the extremely complex experiment conducted by the Americans at an atoll in the Pacific ocean in 1952.

Later years saw the development of nuclear charges designed by Soviet scientists and utilizing new ideas that increased the specific power of the charges by multiples of 10. These are the charges that are at the heart of our nuclear arms.

Further on Espionage Role in Nuclear Arms Projects

934P0049B Moscow IZVESTIYA in Russian 9 Dec 92 p 3

[Article by Yuriy Smirnov, associate of the Russian Scientific Center Kurchatov Institute, under the general heading: "USSR Nuclear Arms: From America or Developed Independently?"]

[Text] The intelligence services' contribution to the Soviet atomic project is inarguable. Its significance is that information from abroad prompted the national leadership to make the difficult decision to go ahead with the development of nuclear arms amidst a most devastating war. Intelligence made it possible for our physicists to cut the time required to the maximum degree possible, and helped to avoid a "misfire" in conducting the first atomic explosion that had tremendous political value. Intelligence made I. Kurchatov the most informed nuclear physicist who, while knowing the achievements of his colleagues, at the same time, during the important initial stage of the nuclear race, was privy to the results achieved by Western specialists.

Nevertheless, information obtained by intelligence, no matter how potentially useful, is by itself inanimate. Inanimate until proof is found that the "catch" is not an error or, even worse, disinformation. That is why one cannot agree with statements being made by our "nuclear" intelligence officers that the information obtained by them was "so detailed" that it "made it possible for Kurchatov to proceed directly to building production facilities, shops, or stages of experimental production."

"When we ascertained," says Yuliy Borisovich Khariton, "that we had in our hands quality material—a bomb design already tested by the Americans—at that dramatic

time, of course, it was a more dependable and less risky solution to use it rather than something else for our first detonation. Taking into account state interests, any other decision at the time would have been impermissible."

L. Altshuler, a direct participant in the Soviet atomic project, recalls that to the question why the most primitive and expensive version had been chosen in the course of the first testing, Yu. Khariton explained: It is important to demonstrate as quickly as possible that we have the bomb.

Let us note: The answer did not imply that the device being tested was a reproduction of the American product. Very few people in the project's top leadership knew that. The rest of participants remained ignorant of it until recently. Yu. Khariton explains:

"Can you imagine what would have happened if I spoken about the intelligence material?! The ban on divulging the mere fact of receiving such information was very strict. Of all people our "nuclear" intelligence officers should clearly understand why Soviet physicists did not discuss this topic."

[Smirnov] But scientists do not particularly like it when their bosses impose something on them, rejecting their own ideas...

[Khariton] This is true, of course. Nevertheless, there was no particular resistance to the proposal put forward by Zeldovich and me. People could see that our proposals were indeed of the kind that were needed. So they went ahead. Then, some time later, the same people made much better, much more advanced prototypes. Very soon they developed atomic charges that weighed tens of times less and expended several times less active material. [end Khariton]

The next nuclear bomb, tested by the USSR in 1951, was more than double the power of the first one. At the same time its diameter was considerably smaller than the copy of the American bomb, and it was only slightly more than half as heavy than its predecessor. It is important to note that the development work for this improved version of the bomb was rather clearly defined as early as 1949.

The interim stages, as they were successfully passed by I. Kurchatov's and Yu. Khariton's groups, did not make the proper impression on the national leadership, however. Including Beriya, who supervised the Soviet atomic project. Even the start-up of the first atomic reactor on 25 December 1946 was no match for a demonstration of new military equipment—an aircraft, artillery gun, or menacingly roaring tank. Having observed the galvanometer pointer jump as the chain reaction began, and hearing the increasing frequency of the clicks on the loudspeaker, Beriya, speaking to Kurchatov, exclaimed: "This is it? Nothing else?!"

Such "demonstrations" were extremely unimpressive. It is not accidental that Beriya started wondering whether Kurchatov was engaged in some kind of fraud. Igor Vasilyevich knew of the "doubles" prepared to replace him, and everyone knew: If the bomb does not go off, the Kurchatov group is in trouble. Only a successful detonation of the atomic bomb in the USSR could disperse the gathering clouds. And the sooner the better!

I. Kurchatov related once that at a meeting in Stalin's office before the detonation of the first bomb the leader said: "The atomic bomb must be produced at all costs." After the detonation took place, at the awards ceremony Stalin remarked: "Had we been a year or a year and a half late with the atomic bomb, you probably would have 'experienced' it yourself."

[Smirnov] Yuliy Borisovich, there is much talk these days as to who, so to say, is the "father" of the Soviet atomic bomb. Kurchatov and you are mentioned. Some hint that it is Fuchs. How would you answer this question?

[Khariton] Zeldovich and I were the first people in the USSR to start developing the atomic bomb at the beginning of 1939. But it is one thing to develop the construction theoretically, and completely another to implement it in practice, to accomplish a truly immense volume of work. So if we retain the terminology of the question, there were three "fathers"—Kurchatov, and Zeldovich and I. The contribution of Fuchs and our other helpers abroad is unquestionable. However, we implemented the American design for the first testing not so much out of technical as out of political considerations. [end Khariton]

No matter how unpleasant the Fuchs incident may be for the Americans, they maintain objectivity with respect to it. In the mid-1950's, when the polemic around Fuchs was still topical in the United States, this conclusion was published: "The main difficulties the Soviets had to overcome in order to create the bomb were related to heavy industry and production. The Soviet Union had its own excellent scientists, who could on their own find answers to all the questions."

Moreover, Hans Bethe, in whose group Fuchs worked while at Los Alamos, noted in an explanatory note to a 1952 memorandum that if the Soviet physicists were using Fuchs' information on the hydrogen bomb, "we can only rejoice because this means that they are making themselves bankrupt over a project that is useless from the military point of view."

How do the Americans now, these days, look at the peripeteia surrounding "nuclear espionage" which at the time touched upon the most sensitive nerves of the two world powers? I brought this topic up in a conversation with an authoritative American specialist on the history of Soviet atomic project, Stanford University Professor D. Halloway.

"The question as to how much help the Soviet Union had from intelligence, especially from Fuchs, has been widely discussed in the West," said D. Halloway. "Fuchs was a competent physicist. He had a decent reputation, although he was not a top-notch physicist such as H. Bethe. When questioned on scientific issues after his arrest, Fuchs told the truth, not hiding and not distorting anything. He had extensive access to information in Los Alamos.

"A natural question is how Fuchs' information influenced Stalin's decision to give life to the Soviet atomic project. I think this information could be of great political importance for Stalin. The technical side of the matter was subordinate to its political significance. When writing about Fuchs, this side of the matter is often overlooked.

"Another issue is of a more technical nature: whether it is possible to correlate in time the information passed by Fuchs with the progress of the Soviet atomic project. An interesting fact merits attention in this respect. During the war almost all the questions the Soviet side posed to Fuchs were illiterate from the point of view of physics. I am curious as to who was the author. I simply cannot believe that they were asked by Kurchatov, Khariton, or Zeldovich. And we also know that after 1945 Fuchs was being asked very specific, very precise questions."

[Smirnov] Still, how much, in your opinion, did the Soviet project benefit from the intelligence?

[Halloway] When I attempted to evaluate how much the Soviet Union gained from Fuchs' information, I looked at the experience of postwar Britain. There were about 20 Englishmen working at the Los Alamos Laboratory. When after the war the cooperation between the United States and Britain in the area of nuclear weapons came to an end, all of them, including Fuchs, returned home in 1946—that is, one year after the atomic weapons had been tested in the United States—and got busy with the development of the British atomic bomb. Still, the British, with their quite high level of industry and technology, had great difficulties. Despite the fact that they were very well informed, there was a multitude of problems they had to solve on their own. Of course, the USSR had less information from outside than Britain did. So you had to go a longer and more difficult road. (The first British atomic bomb was detonated three years after the Soviet one.—Yu.S.).

Fuchs' important role in the history of the Soviet atomic project does not diminish the Soviet physicists' contribution. Besides, the most labor-intensive problem in the development of an atomic bomb is not its theoretical development but the practical organization, the creation of appropriate industries and new technologies.

[Smirnov] What can you say of the statements of our "nuclear" intelligence officers that have lately been appearing regularly in the mass media?

[Halloway] I do not see in these publications anything that is incorrect from the point of view of factual material. They do contain, however, a clear political design: It was not so much the physicists as the KGB that ensured the creation of the Soviet atomic bomb. And, speaking of the hydrogen bomb, not Sakharov...[end Halloway]

History chose the United States and the Soviet Union to become the pioneers of the nuclear age that became a turning point in the development of civilization. More than anyone else, these two powers have experienced to the full extent how the nuclear race accelerated and even subordinated to itself the most advanced science and technology. These countries were the first to realize that possession of nuclear arms does not provide a decisive advantage for either side—on the contrary, it presents the threat of mass destruction. Having created global problems, including those of a moral nature, nuclear arms now determine the strategy of world politics. For this reason researchers will keep coming back, over and over again, to the dramatic beginnings of the atomic saga, in an attempt to "dig up" their true contents.

STRATEGIC ARMS REDUCTIONS

Larionov Ponders Russian Nuclear Strategy in New Conditions

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[Article by Professor Valentin Larionov under the heading "Security": "Strategic Dilemmas of the Nuclear Age: Catastrophe Can Only Be Prevented"]

[Text] In the debate over what concept should form the basis of Russia's nuclear strategy, i.e. first strike [pervyy udar], retaliatory counterstrike [otvetnyy-vstrechnyy udar] or retaliatory strike [otvetnyy udar], thus far preference in strategic planning has been given to the retaliatory counterstrike option.

However, V. Repin, a leading technical expert, proposes that the first strike option be made the basis of our planning; this would allegedly provide tremendous advantages in terms of Russia's security and would deter nuclear war (see NEZAVISIMAYA GAZETA, 24 September 1992). Earlier, political scientist A. Arbatov published his arguments in favors of the concept of a "retaliatory strike" (NEZAVISIMAYA GAZETA, 10 March 1992).

I do not wish to assume the role of arbiter, but I do not fully share the view of either individual. I base that statement on my personal and collective experience with the development of the theoretical foundation of Soviet nuclear strategy, and on its evolution and the circumstances which dictate it.

In the late 1950's and early 1960's I was one of the authors and compilers of the book "Voyennaya strategiya" [Military Strategy], which was edited by Marshal V. Sokolovskiy. Some historians of Soviet military thinking ironically call the period when the idea of this much talked-about book was maturing and when the actual work on it was being done the "romantic" period in Soviet nuclear strategy. Indeed, in those years it seemed to us that we were finally witnessing the arrival of that long-awaited moment when the cherished dream of all preceding generations of strategists would become a reality, i.e. that with the aid of the means of force under our command we would have the ability to achieve any military or political objectives, even the most extreme ones. Strategic planning organs did not even give any thought to what form a mass

Soviet missile strike would take, whether it would be a first strike or a retaliatory strike. The United States' missile gap solved every problem for us.

By the late 1960's Soviet-American nuclear parity had been established. As a result the focus shifted to the technical and combat readiness of the nuclear missile component of our armed forces. Calculations of the two sides' capabilities with regard to early warning, the length of time required to prepare for a strike, weapons systems guidance and strike results became a part of the picture.

Then world theory began acknowledging the superiority of a disarming first strike. A short while later intensive research began on the concepts of a second retaliatory counterstrike or a retaliatory strike.

I should note that emerging parity was not the only impetus behind this boom; there was also the appearance of new types of missile technology (MIRVed missiles, mobile ground launchers, and the new SLBM's). A major role in the selection of our hypothetical model for employment of nuclear missiles was played by ideological and psychological considerations. The USSR's political leaders, attempting to appear peace-loving to world public opinion, demonstratively rejected the first strike concept. But a purely retaliatory strike did not suit them, either. That was mainly due to psychological considerations. In the people's mind a retaliatory strike could not perform its role of guaranteed retribution if the United States were able to mount a successful counterforce strike.

Thus appeared the "saving" formula of the "retaliatory counterstrike" and complex technical and mathematical calculations were undertaken. These were also necessary to justify for domestic consumption the USSR's position at the Soviet-American strategic arms limitation talks (SALT-1), which began in 1969.

Typically, all calculations at that time were based on the assumption that nuclear weapons would be used. Essentially it was only in the late 1980's that there was a radical change in the two sides' strategic thinking, planning and behavior. They finally acknowledged something that had long since become clear to everyone else: there would be no winners in a nuclear war, and such a war must be prevented at all costs. This was set forth in an official statement resulting from the meeting between Mikhail Gorbachev and Ronald Reagan in Geneva. Since that meeting many encouraging steps have been taking in that direction in Soviet-American strategic relations, this year in particular.

For instance, today all concepts regarding the use of strategic nuclear weapons must be assessed from the standpoint of how well they fit in with the idea of preventing nuclear disaster, not of who will prevail in the "race to annihilation."

In that regard the first strike concept proposed by V. Repin would place us, on a psychological level, in the same frame of reference as American nuclear planners, and would apparently strengthen the nuclear deterrence system. But one must not forget that the negative aspects more than compensate for this psychological effect. Firstly, in order for the first strike strategy not to be merely a bluff over the long run, each year ever-increasing allocations would have to be made to fund research and development efforts. Military science would constantly be seeking new models of weapons capable of guaranteeing the success of a first strike.

Secondly, reliance on a first strike would require a permanent state of heightened combat readiness at missile bases, and in view of the increasing technical complexity of the system it is becoming more and more difficult to provide that without using computers to control those systems. Thus people would be forced to turn over their monitoring and control functions to machines and would become their prisoners. But, as you are aware, a breakdown in some part of this system is difficult to prevent, and even more difficult to correct in the midst of rapidly unfolding events.

Thirdly, preparedness for a first strike would, as A. Arbatov correctly notes, undermine the atmosphere of trust that now exists in Russian-American strategic relations and in joint efforts to prevent war.

Finally, a first strike is one attribute of the offensive doctrine that Russia has already abandoned, both as a legacy of Soviet defensive doctrine and as the source of the concept of nuclear missile "non-targeting."

The concept of a retaliatory strike also has pluses and minuses from the standpoint of preventing nuclear war. Its advantage lies in the psychological effect that will ensue in the event that we state this policy. It would be another step in a chain of confidence-building measures on our part which has spurred on the United States: first there was removal of targeting instructions from a portion of our missiles, then the complete removal of missiles from combat alert status, and now rejection of a retaliatory counterstrike.

But a retaliatory strike is dangerous due to its chilling effect. A number of research and design projects could be terminated, but that is not always beneficial. Furthermore, according to mathematical calculations implementation of the idea of a retaliatory strike requires quantitative warhead superiority, so that enough will remain intact to launch a retaliatory strike against the enemy. And that undermines the fundamental principles of the balance of forces agreements that have been reached.

If someone asked me which of the two concepts now under discussion should be selected, I would reply: a concept of measures designed to prevent a nuclear attack of any type.

Such measures, in addition to those already being implemented or currently being negotiated with the United States, could also include:

—a mutual agreement to remove missiles targeted at the territory of both the United States and Russia from combat alert status;

—termination of flights by aircraft with nuclear warheads on board;

—mutual blocking [blokirovka] of sea-based missile launches;

—exchange of secrets regarding electronic locks and blocking systems against accidental missiles launches. This measure is important because it ensures that each side is fully confident of the reliability of the technical means for preventing a breakdown in the other side's system for control of its nuclear missiles complex;

—identification of warning systems, and their unification on a mutual basis;

—conducting joint technical-combat excercises to prevent missile launches.

This list includes measures which have been touched upon to one degree or another in existing agreements. But a majority of them will require further development and discussion on a bilateral basis. If it is possible to reach agreement between Russia and the United States on these measures, then they could be extended to the other nuclear powers as well.

The most important thing we must understand today is that what matters most is not the concept and plans for use of nuclear weapons. The guarantee that nuclear war will be prevented also involves preventive measures to preclude unauthorized missile launches (resulting from a lack of time for decision making). In order to keep from being blown into the next world, we must do everything humanly possible in this world to prevent that fateful "D-Day."

There are ways of doing that right now, in the current atmosphere of mutual trust between Russia and the United States. But we must not let this rare opportunity slip by.

START II Effect on Russian Strategic Posture Queried

934P0051A Moscow NEZAVISIMAYA GAZETA in Russian 30 Dec 92 p 4

[Article by Vladimir Belous, Center for Strategic Studies: "The Price of Security—Reflections on Russian Nuclear Doctrine"]

[Text] The formation of a new model of relations between Russia and the United States is subject to the inertial influence of the previous confrontational doctrines, especially in the military strategic sphere. Declarations by the presidents of both countries on the end of the cold war and a transition to partnership cannot in one instant lift relations in the military sphere to a fundamentally different level. This is impeded by the presence of tremendous weapons arsenals, especially of nuclear weapons, and also by the mentality which has formed over the course of decades within the highest military-political leadership.

Many years ago B. Brody, the prominent American military theoretician, reached the conclusion that nuclear weapons are not the weapons of war and that their only rational function was deterrence. The record of almost half a century of the absence of military conflict in Europe confirms this extremely important conclusion.

In recent years, both in the Soviet Union (and now Russia) and in the United States, the condition considered necessary for supporting strategic stability has not been quantitative equality of strategic offensive arms between the two sides—parity, but rather the capability of inflicting guaranteed "unacceptable" damage in responsive action. After all, as G. Galbraith asserted, "The ashes of socialism will hardly be distinguishable from the ashes of capitalism."

Perhaps the greatest role in effecting painless passage of the START I Treaty through the reefs of ratification was played by the signing, during the Washington meeting of the U.S. and Russian presidents in June of this year, of a framework agreement which was completely unexpected by the majority of analysts and military specialists. But is it in fact worth making an issue of 30-40 percent reductions in strategic offensive arms if the presidents of the two countries have already agreed to effect about a three- or four-fold reduction—as compared with existing levels—by the year 2003?

It seems that having secured ratification of the START I Treaty, the framework agreement has shifted the fire over to itself, and it is not difficult to assume that a ferocious struggle will ensue right around it, the outcome of which can hardly be predicted. The first signal of alarm already sounded during the course of work of the Seventh Congress of People's Deputies, when serious criticism was voiced in the direction of the new agreement. However, the most recent reports provide evidence that the Russian president is continuing to undertake efforts to achieve a signing of the START II Treaty as soon as possible. Perhaps for G. Bush there is a definite reasoning behind this—a spectacular present to the United States at the end of his stay in the White House. Well, where is the leadership of Russia speeding off to? Will not such haste result in a new defeat for the president's policies? This is far from being a rhetorical question.

We recall that, in accordance with the latest agreement, both sides must by the year 2003 eliminate all intercontinental ballistic missiles with multiple independently-targeted reentry warheads (MIRV's) and reduce their strategic forces to achieve a total level of weapons amounting to 3,000-3,500, of which no more than 1,700-1,750 can be on submarine-launched ballistic missiles (SLBM's).

The new agreement stipulates that the reductions will be carried out through the destruction of missile launchers and heavy bombers using procedures as described in the START Treaty, and by decreasing the number of warheads on existing missiles, with the exception of heavy missiles—which must be eliminated in their entirety. The heavy missiles include the SS-18, located only in Russia.

The framework agreement stipulates levels of weapons located in the territories of Russia and the United States. In accordance with the Lisbon Protocol to the START Treaty, all strategic offensive weapons must be eliminated from the territories of Ukraine, Belarus, and Kazakhstan at the end of a seven-year period.

The history of negotiations on strategic offensive weapons shows that the United States has traditionally undertaken efforts to reduce the combat capabilities of the Soviet Strategic Rocket Forces—where they have perceived the main threat. This position was explained by virtue of the structural asymmetry of strategic offensive arms which came about as a result of various geostrategic and economic conditions of the two countries (65 percent of the USSR weapons were on ICBM's, 26 percent—on SLBM's, and nine percent—on heavy bombers; 23 percent of the U.S. weapons were on ICBM's, 55 percent—on SLBM's, and 22 percent—on heavy bombers). In this regard, not only did Soviet ICBM's not lag behind their American counterparts with respect to combat characteristics, they often surpassed them.

In the opinion of specialists, therefore, the most serious deficiency of the framework agreement is the need to restructure the Russian strategic forces to conform with the American model. In fulfilling this requirement, the share of Russian ICBM's will come to 20-25 percent and of SLBM's—to about 50 percent, i.e., it will be practically a mirror reflection of the strategic offensive forces of the United States. Proponents of the elimination of multiple-warhead ICBM's explain this by virtue of the fact that these missiles have strong counterforce capabilities and low survivability—which determines their mission of inflicting a first strike. This assertion has its foundations, of course, but everything must be seen in comparison. The American Trident-2 SLBM is no less capable a counterforce weapon than our SS-18 heavy missile.

It should also be remembered that the sea component of our strategic offensive forces traditionally lags behind its American counterpart with respect to basic parameters. This is determined first of all by virtue of a lower percentage of submarines operating on combat patrol at one time, limitations of their activity in the world ocean, the lack of naval bases for such use, and Russia's decreased capacities for submarine production, maintenance, and repair.

The United States has a noticeable advantage in the sphere of waging antisubmarine warfare and in the noise level of missile-carrying submarines. Therefore, the shifting of center of gravity of the Russian strategic offensive weapons from ICBM's to SLBM's constitutes an unjustified concession to the United States. It should also be taken into account that the ICBM's, deployed in silos, are the only strategic offensive weapons which are capable of inflicting a retaliatory-engagement strike, i.e., of effecting launch prior to the time the enemy's warheads fall on our territory. This drastically reduces the effectiveness of a first, "disarming" strike.

We must also not forget the fact that the main basis for the criticism of SDI and the United States rejection of deployment of antimissile defenses on a broad scale is the low effectiveness achieved in intercepting multiple-warhead ICBM's outfitted with a countermeasures system. Therefore, the elimination of ICBM's with multiple reentry vehicles raises the question as to a proper approach toward SLBM's as well, i.e., on shifting from multiple- to single-warhead missiles.

Following the planned reductions, the United States will retain in its inventory the highly accurate single-warhead Minuteman-3 ICBM (500 units) and Trident-2 SLBM (400 warheads). But following elimination of the SS-18 ICBM's in Russia, our country will have no high-accuracy counterforce weapons at all. Therefore, it would be advisable during the course of the coming reductions to place some of the new single-warhead SS-25 and SS-19 missiles (170) in the vacated silos.

Specialists estimate that the planned changes in the structure of its strategic offensive forces will cost Russia many hundreds of billions of rubles. It should also be taken into account that according to "cost effectiveness" criteria, the ICBM component has no equal when compared with the other components of the strategic "triad." Allocations of just 10-12 percent of the military budget on the maintenance of Strategic Rocket Forces will enable us reliably to ensure deterrence "along every azimuth." Therefore, a sharp reduction in percentage of ICBM's meets neither the strategic nor the economic interests of Russia.

An extremely pressing question is that of the level of minimum nuclear deterrence.

Tied very closely to nuclear strategy is the question of ICBM targeting. In recent times, repeated statements of high-ranking political and military leaders have resounded—declarations filled with good intentions and assurances of the peaceloving disposition of Russia. It has been pointed out in particular, as one of the basic arguments, that our missiles are no longer targeted against American cities. But the question then immediately arises: What targets are they in fact aimed at? According to the strategy of nuclear deterrence, a "countervalue" strike against major cities and industrial centers is, despite all its anti-human essence, the most effective means of responsive strike and of inflicting "unacceptable" damage to an aggressor. Retargeting ICBM's to military objectives, especially to strategic offensive weapons, means in essence a rejection of the strategy of deterrence and a shift to preparation of a first "counterstrike," i.e., a concealed—or, more accurately, unconscious—aggressiveness may be suspected here, and not without foundation, instead of a peaceloving disposition.

There is no doubt but that the concept of nuclear deterrence responds to the greatest degree to the one and only rational function of nuclear weapons, and complete clarity is necessary here. Great confusion enters the minds of specialists when they hear statements to the effect that missiles are not targeted against specific

objectives, but rather aimed in some direction. Let us consider the American Minuteman-3 missile. Seven flight programs against different targets are entered into the missile's guidance system beforehand, and in this manner the missiles are in a state of combat readiness. Transmission of the command to launch also carries a code with a numbered variant for guiding warheads to their targets. Therefore, if a missile is in a state of combat readiness, its targets are precisely determined and set into the guidance system.

Some attention should be given to the consistency of conceptual principles of the military strategy of our opponent of yesterday. Thus, the main principles of U.S. military strategy for the 1990's indicate directly that strategic deterrence and strategic defense remain fundamental concepts. They are not being crafty, and the military specialist understands where, in accordance with this concept, the strategic offensive weapons of the United States are targeted.

Russia's nuclear strategy, as an extremely important part of its military doctrine, requires thorough scientific study. The planned reductions in strategic offensive arms must be carried out in calculated fashion, so as to reliably guarantee the security of Russia and the CIS countries, and in so doing to be minimally burdensome to the country's economy. In this regard, it should be taken into account that the function of strategic offensive weapons—to execute combat missions—is primary, while their composition and structure are secondary.

Russian Army Paper Summarizes START II Provisions

934P0052A Moscow KRASNAYA ZVEZDA in Russian 6 Jan 93 p 3

[Unattributed report: "START II Treaty: Basic Provisions"]

[Text] **The START II Treaty is an important and complex document couched in the international-legal language specific to such agreements. Its basic provisions amount to the following:**

By 1 January 1993 the total number of nuclear weapons on strategic offensive arms of Russia and the United States (ICBM's, SLBM's, and heavy bombers) will constitute 3,000-3,500.

All ICBM's with multiple independently targetable reentry vehicles (MIRV's)—the most destabilizing component of nuclear arms provoking the preparation of a "counterforce" or "preemptive" nuclear strike—will be eliminated.

Each party will reduce the number of nuclear weapons on its submarine-launched ballistic missiles—SLBM's—to a limit of 1,700-1,750 units. This is a reduction by half in the sea-based—principal—component of American strategic offensive arms compared with the limit determined by the START I Treaty.

Restrictions are established on the nuclear weapons with which heavy bombers (HB) may be fitted. This ceiling will amount to 750 to 1,250 nuclear weapons of any kind -long-range air-launched nuclear cruise missiles (ALCM's), short-range cruise missiles, or nuclear bombs. The theoretical possibility of the United States significantly increasing the actual number of nuclear weapons on heavy bombers, which was permitted by the START I Treaty counting rules, is thereby eliminated.

The reductions in and restrictions on strategic offensive arms will be undertaken in two stages. At the first stage, over a period of seven years following the START II Treaty taking effect, each party will reduce them such as to ensure that:

—the overall limit of its strategic offensive arms does not exceed 3,800-4,250 units;

—the number of weapons on MIRVed ICBM's is 1,200 units;

—the number of weapons on heavy ICBM's is 650 units;

—the number of weapons on SLBM's is 2,160 units.

The maximum limit established for the parties is to be achieved at the second stage—prior to 1 January 2003.

The START II Treaty regulates the procedure of the conversion of the strategic offensive arms components which are to be reduced or limited. Thus each party has the right to reduce the number of weapons which are counted as MIRVed ICBM's or SLBM's (other than heavy missiles) to one reentry vehicle. This is of fundamental importance to Russia, whose strategic forces have SS-19 missiles carrying six warheads each. According to the treaty, it has the right to convert 105 such missiles into single-reentry-vehicle ICBM's [MBR c odnoy golovnoy chastyu].

Each party has the right to refit the existing ICBM launch silos as silos which house single-warhead missiles. This applies also to the freed-up launch silos for the Russian SS-18 heavy missiles, which, given compliance with certain procedures, may be reequipped as launch silos for single-reentry-vehicle ICBM's.

The right of the parties to reorient up to 100 heavy bombers for the performance of individual assignments is specified; they will not then be counted in the overall fixed limits. This is particularly important in connection with the fact that the United States uses its heavy bombers to perform nonnuclear functions and then returns them to their previous status. Henceforward the American side will be able to return to the nuclear category a reoriented heavy bomber not more than once.

Account is taken also of so important a point as the commitments of Belarus, Kazakhstan, and Ukraine to subscribe to the Nuclear Nonproliferation Treaty as nonnuclear states.

The parameters of the reduction and limitations fixed in the START II Treaty are combined with the desire of the parties to maintain the strategic balance at a radically reduced level guaranteeing strategic stability and the predictability of the development of the situation at the turn of the century. Russia and the United States are embarking thereby on the construction of the foundation of qualitatively new relations in the military-strategic sphere.

SS-25 Mobile ICBM System Described

934P0046A Moscow KRASNAYA ZVEZDA in Russian 20 Nov 92 p 2

[Article by KRASNAYA ZVEZDA Correspondent Major Aleksandr Dolinin: "The RS-12M: It's Easy to Change the Launch Site"]

[Text]

The RS-12M [NATO designation SS-25] mobile ground-based missile system that has been named Topol [poplar] in everyday use is considered to be one of the most successful systems in the Strategic Rocket Forces at the present time. We had 288 launchers of this type at the moment the START Treaty was signed. Approximately two-thirds of them are on Russian territory and the remaining ones are in the Republic of Belarus.

Of course, the main thing in this system is the missile. It is an intercontinental, single warhead, solid fuel missile. Its throw weight is equal to one tonne. The missile is manufactured in Votkinsk, weighs approximately 45 tonnes, and spends all of "its life" in a special launch canister that is 22 meters long and two meters in diameter.

The one-hundred tonne launcher with extremely solid dimensions has surprising mobility. Everyone who has seen it on our soggy unpaved country roads and in openings in the forest, in quarries or in snow-filled ravines, where not a single transport vehicle will travel other than tractors and tanks, have assessed the talents of Minsk automobile builders (they manufacture the seven-axle chassis) and of their neighbors in Russia and other countries of the Commonwealth by its features. Yes and the entire launcher as a whole, that is assembled by Volgograd machine builders, causes delight among connoisseurs of modern equipment.

The system, which was placed on alert duty in 1985, has turned out to be reliable. The test of time which the hardware has undergone has shown that it is as safe in operation as any other heavy automobile transporters. The missile has also justified expectations and all launches of the missile at the test range have been successful and have confirmed its high qualitative specifications.

On the whole, the RS-12M strategic missile system is an alloy of the most modern technologies. The missile's

solid fuel engines are the combination of the leading achievements of chemistry and materials technology. They have no equals in the world based on the combination of cargo capacity and off-road capability of the self-contained chassis. The command and control system apparatus with the onboard computer suite, the diverse collection of command and control, communications and monitoring systems for a mobile launcher, the energy supply, topographical-geodesy, and azimuth guidance systems and many others that are inherent only to this system meet the strictest demands. It has absorbed in itself all of the best that has been developed in missile production to this day. The outstanding collective of the Moscow Institute which was headed by A. Nadiradze for many years deserves a great deal of credit for that.

And now about the main thing. What will happen if the launch order is received? The self-propelled missile launcher stops at any point of the route. The combat command and control apparatus comprehensively reverifies the authenticity of the order and turns on the automatic algorithm of the launch cyclogram. The self-propelled vehicle is frozen in place, having placed the wheel brakes in a vise-like grip. Powerful hydraulic jacks are extended along the sides of the transporter and the horizontal leveling of the launcher begins automatically. Further launch preparation operations (with the exception of certain ones) are no different than those that are customary for other missile systems.

SDI, DEFENSE & SPACE ARMS

Plans for Russian Cooperation With SDI Alleged

934P0050A Moscow MOSKOVSKAYA PRAVDA in Russian 12 Dec 92 p 1

[Article by M. Stakhov: "The Price of Space 'Bread'"]

[Text] At the same time that the presidents of Russia and the United States are exchanging phone calls, attempting to resolve disagreements which have arisen concerning the framework agreement concluded in June on further reductions in strategic arms (START II) and talking about their possible meeting in Anchorage, Russian specialists in one of the most highly classified nuclear laboratories in recent times have been working together with their American colleagues on the program known as SDI (Strategic Defense Initiative). This ambitious plan—paradoxical as it may seem—is to a certain degree related to one of the achievements of our space technology—the Topaz-2 reactor. In the opinion of Western experts, the United States purchased this for a ridiculously low sum of money—$13 million. According to their data, it is one of a kind, and the Americans would have to spend billions of dollars and many years in order to arrive at such a level themselves.

Today Russian engineers at the Phillips Laboratory Center in Albuquerque have, along with American specialists, already achieved an initial success, increasing the reactor's capacity.

In spite of the fact that the American program has profited economically thanks to the rather low expenditures for acquisition of the reactor and the pay received by Russian specialists (they get about $30 per month, along with food and lodging), in no way is everyone happy with Russia's entry into the international space market. At the same time that the directors of the SDI program see such cooperation as an opportunity to survive under conditions of reduced financing following the collapse of the USSR, American industrial groups which specialize in the sphere of aerospace technology are quite alarmed at the emergence of a serious competitor that will knock down prices. According to the newspaper FIGARO, the aerospace complex of the former USSR constitutes a real "Ali-Baba's Cave," which is now opening up for the Western countries.

And indeed, not everyone here is pleased with the prospect of selling off the Motherland's space technology "for a fistful of dollars." However, one can understand the representatives of this sector—in the present situation they see joint projects as the only possibility for financing the survival of many space programs.

The price of the space "bread" today, both for us and for the Americans, is being established without the high "defense coefficient" which existed before. And apparently, we are together doomed to supporting it under new conditions.

'Collective Defense System' Called For

934P0044A Moscow NEZAVISIMAYA GAZETA in Russian 3 Dec 92 p 2

[Article by Vladimir Basistov: "Even Developed Countries Are Defenseless Against Missile Strikes—Collective Defense Systems Needed"]

[Text] The sharp drop in the level of military confrontation between the United States and the USSR (Russia) has entailed a considerable reduction in financing for defense programs in these countries. There is discussion, including discussion at the governmental level, of the possibility of forming, with the participation of Russia and the CIS countries, new collective security systems in Europe, Asia, and the world as a whole.

The creation of collective systems of defense against the threat of use of weapons of mass destruction—nuclear, chemical, and bacteriological—is one of the most promising forms of military integration. Not only will it ensure stricter compliance with agreements on the reduction and nonproliferation of weapons of mass destruction and missile technologies; it could also shift the interest of developing countries from the acquisition of missiles and weapons of mass destruction to the joining of collective defense systems (CDSs). A concept for one possible form of such a system—a global system of defense against ballistic missile strikes—is currently being developed by experts in Russia, the United States, and other countries.

The role of deterrent against the threat of a massive strike with weapons of mass destruction has traditionally been assigned to strategic nuclear forces. However, the irrelevancy of the nuclear deterrence strategy is obvious. Today, even the developed countries are defenseless against the threat of missile use. This has prompted the U.S. administration to adopt a decision to develop a limited missile defense system (GPALS, or Global Protection Against Limited Strikes), to include zonal missile defense systems, the Brilliant Pebbles system of space interceptors, and theater of war missile defense systems.

It is quite natural that the Americans are proposing GPALS as the basic option for a global defense system, since the adoption of this proposal would enable them to solve at least two problems. First, Article 1 of the 1972 ABM Treaty prohibits the deployment of missile defense systems on national territory and the development of basic components for such defenses from strategic missiles, while GPALS comes under just such a territorial system. Assent to this proposal would automatically mean the agreement of Russia and other nuclear powers that have an interest in preserving the ABM Treaty between the United States and Russia to a radical revision of that treaty or its abandonment. Second, the development of such a system would be carried out largely by the American military-industrial complex on the basis of programs already under way, while the expense (the cost of the GPALS option mentioned above is estimated at $87.5 billion) would be shifted in part onto the taxpayers of other countries.

It is equally natural that Russia's interests would be served by its participation not so much as a partner in a global defense system, but rather as a developer of that system. But what degree of integration of national means in a collective defense system and what technical form of such a system would most serve our interests?

The possibility of joint development and use of a collective defense system cannot be ruled out. Such a system would be the collective property of these countries. For example, information-gathering satellites could be developed on the basis of advanced American technologies and lofted into orbit by Russian booster rockets. The job of developing control systems, including the software and programming, could also be assigned to Russia.

But it would be more realistic, under current conditions, to develop a collective defense system that would use, as components, regional or global subsystems and systems that are the property of the individual participating states, with clearly defined functions and cooperation. Current information could then be provided to all the interested countries on the basis of special agreements.

Lately the press has pitted the idea of creating a global defense system against Russia's commitment, confirmed by the president, to the ABM Treaty, whose role in curbing the arms race and preventing the development of new-generation weapons is growing as strategic offensive arms are reduced on a reciprocal basis. This opposition is based on a misunderstanding, since a revision of the ABM Treaty is required by the American version of a global defense system based on GPALS, while there are other potential versions of a global defense system that do not conflict with that treaty.

Knowing the United States' scrupulous attitude toward meeting its treaty commitments and considering that today the threat of a missile attack on the United States exists only in theory, it can be assumed that the United States will not withdraw from the ABM Treaty unilaterally. For such a step would sharply inhibit the process of reducing strategic offensive arms; in any case, we would hardly go beyond the levels set by the recent treaty on strategic offensive arms [START].

However, some authors, saying that a global defense system and the ABM Treaty are "mutually exclusive things," openly support the desire of officials of the Strategic Defense Initiative program to get rid of the most important restrictions imposed by that treaty. Statements such as, "A global defense system is preferable to 20-year-old restrictions worked out during the Cold War," strongly smack of opportunism and an attempt to portray the ABM Treaty as one of the "vestiges of the hostile Cold War era," which the Russian and U.S. presidents pledged to do away with in the Camp David Declaration. One gets the impression that an attempt is being made to gradually accustom public opinion to the notion that a global defense system should be developed on the basis of the American SDI. Meanwhile, in the joint statement on a global defense system signed during the U.S. and Russian presidents' most recent meeting, they agreed, for the time being, that it is necessary to "develop a concept for such a system." As for the legal basis of cooperation between Russia and the United States, as well as of other countries of the world community, in developing the hardware and technology for defending against ballistic missiles, it is proposed that they begin with a "study of practical steps" needed to bring about a global defense system.

For example, as concerns the proposal for using the American Brilliant Eyes system, currently under development, as part of the data-processing component of a global defense system (a proposal that was recently discussed in Dubna), it must be recalled that this system, in terms of its principle of operation—tracking and indication of ballistic missile reentry vehicles with refinement of target designation during the interception process—is at variance with the ABM Treaty. Like the Brilliant Pebbles system, it is oriented primarily toward the interception of strategic ballistic missiles, not intermediate-range ballistic missiles or operational-tactical ballistic missiles; yet the latter two missile types are most common in Third World countries. To accomplish data-processing and other tasks associated with a global defense system, one could propose simpler and less costly systems that, at the same time, do not exceed the limits imposed by the ABM Treaty.

The first practical step in developing a collective defense system is to establish an early-warning center for exchanging information from national systems, and not just from missile-attack warning systems, but also from

surveillance, ecological-monitoring, and other systems. In the interests of taking timely defensive measures, it is essential to agree on the broadest possible exchange of information, in order to provide prompt warning of missiles that have already been launched as well as of preparations for aggression actions, making it possible to take collective countermeasures.

The concept of a collective defense system should be based on the principle of non-first-use of weapons, and so ABM systems, in addition to surveillance hardware and missile-attack warning components, would apparently serve as the foundation for the development of such a system.

It should be noted that whereas the development of ABM systems to protect against strategic ballistic missile strikes has been under way in both the United States and our country ever since such missiles appeared, ABM systems to protect against operational-tactical missiles and intermediate-range ballistic missiles have not yet been developed, even though they do not technically come under the ABM Treaty restrictions. Modification of surface-to-air systems like the Patriot and the S-300 or the development of new systems, including aircraft- or ship-based systems, to defend troop deployment areas and installations in a theater of military operations (including nearby communities) against intermediate-range ballistic missiles and operational-tactical missiles will not affect strategic parity between the United States and Russia. At the same time, mobile or rapidly deployable ABM systems for theaters of military operations (but not a strategic ABM system) that are operated only in the event of a threatened missile strike (for example, aviation squandrons that include aircraft systems for intercepting intermediate-range ballistic missiles and operational-tactical missiles, as a part of UN forces or coalition forces of the member countries of a collective defense system) could in peacetime be deployed in the interior of a country and would not create military and political instability in relations with neighboring states. The concept of a collective defense system that is not at variance with the ABM Treaty and is based on the use of ABM systems for theaters of military operations that are moved to the borders on the emergence of an external threat is fully in keeping with the interests of Russia, along whose periphery military operations involving the use of missiles, among other weapons, have been under way for some time. Such a concept for a global defense system is based on the constantly growing capabilities of conventional weapons, capabilities that will eventually allow abandonment of the principle of nuclear deterrence.

CHEMICAL & BIOLOGICAL WEAPONS

Euro-MP's Protest Mirzayanov CW Secrecy Prosecution

93WC0011B Moscow MOSCOW NEWS in English No 49, 6-13 Dec 92 p 8

[Article by Valery Menshikov, member, Russia's Supreme Soviet and Vladimir Yakimets, member, Nevada-Semipalatinsk Movement: "Europarliament: Reaction to Vil Mirzayanov's Case"]

[Text] **The "case" of Vil Mirzayanov, one of the authors of "A Poisoned Policy" article published by MOSCOW NEWS this September remains in the focus of world public attention.**

Twenty-four members of European Parliament representing various factions and eight countries have sent a letter to Russia's Procurator-General Valentin Stepankov. The letter says:

"We ask you to undertake all that is in your power to guarantee the moral right of scientists to warn the world about development of new chemical weapons, and thus to withdraw the charges against Vil Mirzayanov."

The letter was signed by: Germany's deputies: E. Quistorp, C. Roth, H. Breier, U. Meisel, and F. Grafe; Vice-President of European Parliament, B. Boissiere; France's deputies: M.A. Isler-Beguin, J.P Raffin, M.M. Dinguirand, G. Onesta, and M. Simeoni; Belgium's deputies; P. Staeg, P. Lannoy, and B. Ernst; Italian deputies. A. Lenguer, V. Bettini, G. Amendola, and E. Melandri; Britain's deputies; E. Newman, and D. Morris; as well as J. Versen (Denmark); N. van Dijk (Netherlands); and C. Martinez (Spain).

We presented details of the "case" of the Russian scientist unlawfully accused of divulging a state secret, to deputies at the European Parliament's session in Strasbourg where we had been invited by the Green Group.

Incidentally, they had already heard a lot about the matter. Recently we received a letter from G. Colby, member of the Coalition for a Non-Nuclear World, based in Princeton, N.J. Mr. Colby informed us that the "Russian scandal" triggered over 50 articles in US newspapers and magazines during only one week in November. The interest was heightened by the expected (in mid January) signing of the Chemical Weapons Convention. Several members of the Federation of American Scientists, representatives of the American Chemical Society, and some famous US lawyers who are experts in international law believe that the case in question is important not only for Russia but also for the whole of mankind.

We are surprised, writes Mr. Colby, that neither the Russian Academy of Sciences, nor any of the numerous social organizations, or famous scientists have risen their voices in the Russian press. Resolutions of peacekeepers' conferences, and calls of global nature emanating from Russia can hardly be credited fi no active steps in protection of each concrete individual are taken.

Mass-annihilation NBC weapons don't discriminate between those who warned against danger and those who are not, hoping that the danger would be avoided.

END OF FICHE

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